

REMARKS

In the Office Action mailed October 15, 2008 the Office noted that claims 1-15 were pending and rejected claims 1-15. Claims 1-15 have been amended, no claims have been canceled, and, thus, in view of the foregoing claims 1-15 remain pending for reconsideration which is requested. No new matter has been added. The Office's rejections and objections are traversed below.

ALLOWABLE SUBJECT MATTER

The Office has indicated that claims 4 and 13 would be in a condition for allowance if re-written in independent form. The Applicant thanks the Office for the consideration given the claims and submit that the claims are allowable for the reasons discussed below.

REJECTIONS under 35 U.S.C. § 101

Claims 7 and 8 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Office asserts that the claims are drawn to an impermissible computer program. The Applicant has amended the claims consistent with the requirement of MPEP § 2106.01. The Applicant submits that no new matter is believed to have been added by the amendment of the claims.

Withdrawal of the rejections is respectfully requested.

REJECTIONS under 35 U.S.C. § 103

Claims 1-15 stand rejected under 35 U.S.C. § 103(a) as being obvious over Madan ("How DSL Works") in view of Bengtsson, ("Zipper Performance when mixing ADSL and VDSL in terms of reach and capability"). The Applicants respectfully disagree and traverse the rejection with an argument.

Madan discusses how DSL works using an example of an ADSL connection or line from home to a service provider's central office. A DSL modem at home handles the line and divides the available bandwidth of this telephone line using either FDM or echo cancellation. This can also be described as one single transceiver (the DSL modem) allocating different parts of the available bandwidth of the line to different usage (voice and data), using either FDM or echo cancellation.

Bengtsson discusses how the maximum reach varies at different bit rates on a VDSL system, when different numbers of ADSL and VDSL systems share the same binder. It is further discussed how different lines (VDSL and ADSL lines) of a binder affects each other in terms of maximum reach, depending on the duplex scheme used for the different lines. Each line thus uses one duplex scheme and not a mixture of duplex schemes, although different lines of a binder may use different duplex schemes. The different duplex schemes (FDD, TDD or Zipper) are compared when it comes to what scheme that provides the best reach for different mixes of ADSL and VDSL sharing the same binder.

In the present invention, according to the subject matter of the independent claims 1 and 9, the single transceiver allocates different parts of the available bandwidth to different duplex methods simultaneously. FDD, TDD, burst mode duplex and full duplex with echo cancellation are examples of different duplex methods. The present invention according to the independent claims thus builds on the novel idea that it is possible to mix different duplex methods for different parts of the spectrum on one line with the same single transceiver. By doing this it is possible to provide an optimized transceiver that utilizes the bandwidth in a very efficient fashion. The different duplex methods can be utilized simultaneously, thereby allowing for both long reach and high capacity. Both the possibility of full capacity for one user is provided by a burst mode band and at the same time a guaranteed capacity is always provided by the FDD bands of more users are transmitting at the same time.

On page 4 of the Office Action, it is asserted that Madan, page 3 and 4 disclose "allocating from said single transceiver different parts of the available bandwidth to **different duplex methods simultaneously**," (emphasis added) as in claim 1.

However, as discussed above, to mix different duplex methods for different parts of the spectrum on one line with the same single transceiver is a very important insight and is

neither disclosed nor suggested in Madan, nor in Bengtsson. Thus, on of ordinary skill in the art applying Bengtsson to Madan would not produce the features of the independent claims.

For at least the reasons discussed above, Madan and Bengtsson, taken separately or in combination, fail to render obvious the features of claims 1 and 9.

SUMMARY

It is submitted that the claims satisfy the requirements of 35 U.S.C. §§ 101 and 103. It is also submitted that claims 1-15 continue to be allowable. It is further submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

/James J. Livingston, Jr./
James J. Livingston, Jr.
Reg. No. 55,394
209 Madison St, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573/979-4709

JJL/1ad